

REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

Claim 1 has been amended to recite that the leading end of the first fitting portion of the first coupling member, to which a friction disk is spline-fitted, and which is disposed so as to substantially abut on a second fitting portion of the second coupling member, is a “splined” leading end. Basis for this is evident from Figure 3 which illustrates that the first fitting portion 42 is splined.

Claim 6 has been cancelled. Claim 8 has been amended responsive to the rejection under 35 U.S.C. § 112 and now recites that the first coupling member is integrally secured at a location other than the first fitting portion. The rejection under 35 U.S.C. § 112 and the objection to the drawings are believed to be overcome by the amendment of Claim 8 and the cancellation of Claim 6. The Abstract has been revised as required.

The claimed invention is directed to a tandem frictional engagement device having first and second frictional engagement units respectively including friction disks which may be clamped between a piston and a stopper member. Conventionally, a stopper member is provided for each of the first and second frictional engagement units, which creates problems such as those discussed in paragraphs [0004]-[0006] in the present specification.

According to a feature of the invention set forth in the claims, the splined leading end of a first fitting portion of a first coupling member to which a friction disk is spline-fitted is so disposed as to substantially abut on a second fitting portion of a second coupling member to which a friction disk is spline fitted, as a result of which the splined leading end of the first coupling member comprises the stopper member for the second coupling member.

For example, referring to the non-limiting embodiment of Figure 3, a first coupling member including the brake housing 40 has a fitting portion 42 which is splined to fit a plurality of friction disks 44 which are interleaved with a plurality of friction disks 46 which

are fitted to the splines of a first coupled portion 41. The first piston 52 can therefore clamp the friction disks against the clamping plate 50 which is backed up by the snap ring 48 acting as a first stopper member.

The friction plates 72 and 74 of the second coupling member are respectively fitted to the case member 34 and the coupled portion 38 which respectively correspond to the second coupling member and the second coupled member. The second piston 78 can clamp the friction disks against the clamping plate 76. However, in this case the stopper member is comprised by the splined leading end of the first fitting portion 42 and so there is no need for a second snap ring acting as a second stopper member. The overall axial dimension of the device can therefore be reduced and the piston stroke of the second frictional engagement unit is more easily managed (paragraph [0008]).

Claims 1-5, 7, 8 and 10 were rejected under 35 U.S.C. § 103 as being obvious over U.S. patent 6,213,272 (Braford) in view of U.S. patent 4,640,294 (Ordo). The Examiner there asserted that Braford discloses all of the claimed features other than pistons acting in opposite directions, and that this would have been obvious in view of Ordo. However Applicants respectfully submit that the amended claims define over any combination of the cited references.

Claim 1 now recites that the leading end of the first fitting portion which substantially abuts the second fitting portion of the second coupling member and is used as a stopper member is a “splined” leading end. The splines impart additional stiffness and enhance the effectiveness of the first fitting portion as a stopper member against the clamping force applied by the second piston. On the other hand, Braford teaches that the shoulder 44 of the clutch housing 16 comprises the element which engages the outward most plate 46 of the clutch pack 14 to constitute a fixed retention surface for holding the clutch pack 14 in an assembled relation within the housing 18 (column 3, lines 47-53). However, as is evident

from Figure 1 of Braford, the shoulder 44 is not splined. Additionally, it is at the terminus of a flange which can easily deform under the influence of axial pressure. The splines 24 of the housing 16, on the other hand, do not participate in the resistance to a clamping force applied by the piston 56 of the clutch pack 14.

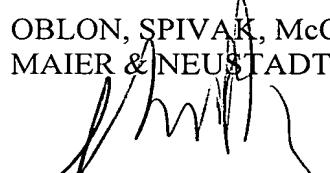
Thus, the claims differ from Braford not only in the failure of Braford to teach pistons acting in opposite directions, but also in that the stopper member of Braford lacks the claimed splined portion and its advantageous effect as a stopper member.

Ordo discloses a tandem frictional engagement device wherein the pistons 98 and 134 act in opposite directions to clamp the clutch packs 110 and 128. However, Ordo lacks a teaching which would suggest modifying Braford such that the shoulder 44 acting to retain the clutch pack 14 of Braford comprises a *splined* leading end of a fitting portion of the clutch housing 16 of Braford. The amended claims therefore define over any combination of the above references.

Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early Notice of Allowability.

Respectfully submitted,

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